

CHAPTER 3

M136 AT4, OPERATION AND FUNCTION

This chapter provides information and technical data for the M136 AT4 light antiarmor weapon, including its characteristics, nomenclature, and operation. Its function, firing mechanism, and safeties are also discussed.

3-1. DESCRIPTION

The M136 AT4 is a lightweight, self-contained, antiarmor weapon. It consists of a free-flight, fin-stabilized, rocket-type cartridge packed in an expendable, one-piece, fiberglass-wrapped tube (Figure 3-1). The M136 AT4 is man-portable and is fired from the right shoulder only. The launcher is watertight for ease of transportation and storage. Though the M136 AT4 can be employed in limited visibility, the firer must be able to see and identify the target and estimate the range to it. Unlike the M72-series LAW, the M136 AT4 launcher need not be extended before firing.

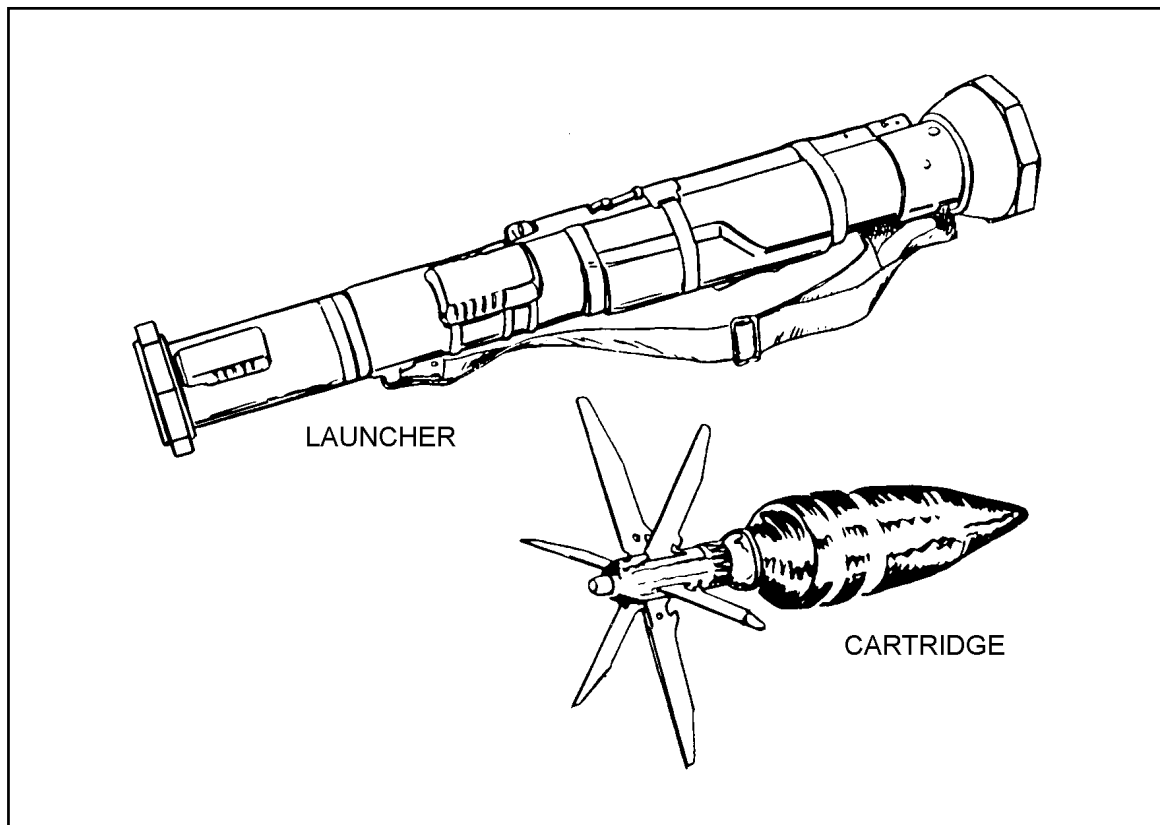


Figure 3-1. Launcher and HEAT cartridge.

3-2. TECHNICAL DATA

The following data apply to the M136 AT4:

a. **Launcher.**

Length..... 1,020 mm (40 inches)
Weight (Complete System) 6.7 kg (14.8 pounds)
Rear Sight..... Range indicator, graduated in 50-meter increments

b. **Rocket.**

Caliber 84 mm
Muzzle Velocity 290 mps (950 fps)
Length..... 460 mm (18 inches)
Weight 1.8 kg (4 pounds)
Minimum Range
Training 30 meters (100 feet)
Combat 10 meters (33 feet)
Arming 10 meters (33 feet)
Maximum Range 2,100 meters (6,890 feet)
Maximum Effective Range 300 meters (985 feet)

3-3. AMMUNITION

The M136 AT4 is a round of ammunition with an integral, rocket-type cartridge. The cartridge consists of a fin assembly with tracer element; a point-initiating, base-detonating, piezoelectric fuze; a warhead body with liner; and a precision-shaped explosive charge (Figure 3-2).

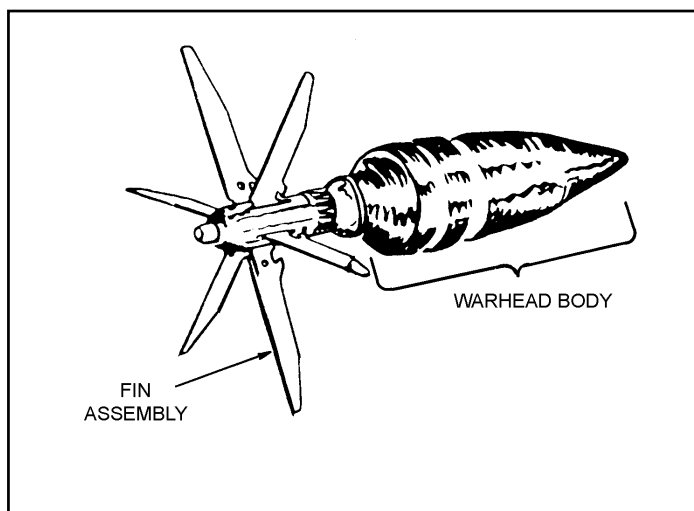


Figure 3-2. 84-mm HEAT cartridge.

a. **Description.** The M136 AT4's warhead has excellent penetration ability and lethal after-armor effects. The extremely destructive, 440 gram shaped-charge explosive penetrates more than 14 inches (35.6 cm) of armor. Warhead effects are shown in Figure 3-3.

- (1) **Impact.** The nose cone crushes; the impact sensor activates the fuze.
- (2) **Ignition.** The piezoelectric fuze element activates the electric detonator. The booster detonates, initiating the main charge.
- (3) **Penetration.** The main charge fires and forces the warhead body liner into a **directional gas jet that penetrates armor plate.**
- (4) **After-Armor Effects (Spalling):** The projectile fragments and incendiary effects produce blinding light and destroy the interior of the target.

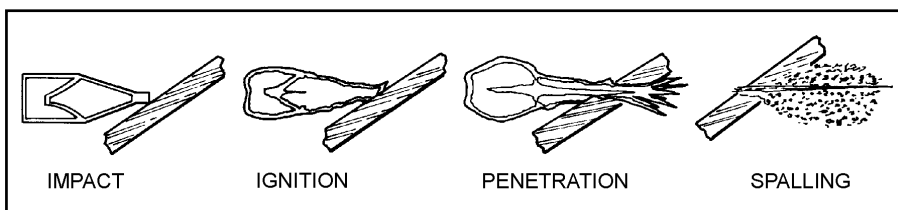


Figure 3-3. Effects of M136 AT4 warhead.

b. **Packaging.** Five M136 AT4s, each wrapped in a plastic barrier bag, are packed together in a wooden container. The containers are too heavy to stack more than four deep on the pallets (Figure 3-4).

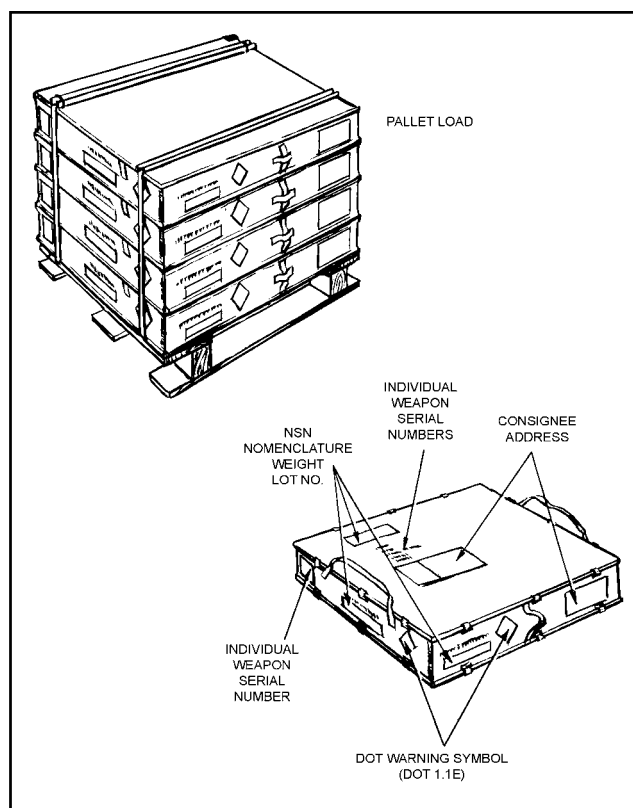


Figure 3-4. Ammunition packaging and markings.

c. **Color-Coding.** M136 AT4 launchers are marked with color-coded bands (Figure 3-5). A black with yellow band indicates an HE antiarmor round (early models had a solid black band). A gold or yellow band indicates a field handling trainer; no band indicates an M287 9-mm tracer bullet trainer (Appendix B).

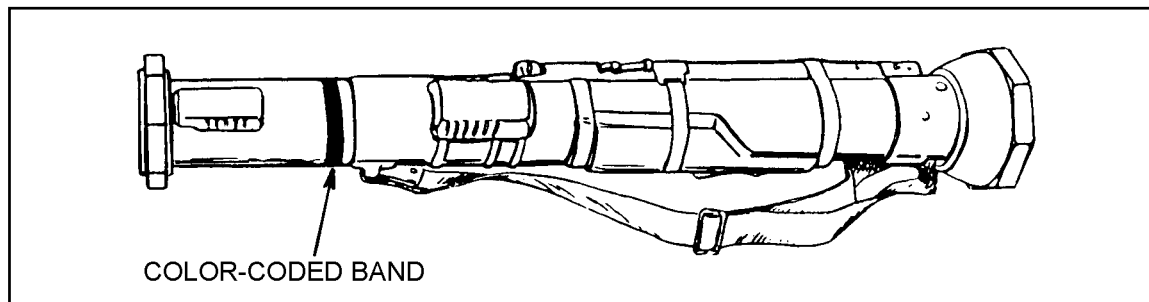


Figure 3-5. Location of color-coded band.

3-4. INSPECTION

Since the M136 AT4 is issued as a round of ammunition rather than as a weapon, the launcher is completely sealed. However, its overall condition should be inspected at the time of issue and again before use (Figure 3-6). The wooden container should be opened, the plastic bags removed, and the launcher visually inspected for obvious damage. If the M136 AT4 is not to be used immediately, it should be returned to its plastic bag and the bag resealed with tape. The soldier issued the weapon must ensure—

- The *rear seal*, a brown acrylic plastic plate inside the *venturi*, is in place and undamaged.
- The *transport safety pin* is in place and fully inserted. The lanyard is attached to the transport safety pin and the launcher. The lanyard should already be wrapped around the launcher clockwise and the transport safety pin inserted in the retainer hole counterclockwise.
- The *cocking lever* is present and in the SAFE (uncocked) position.
- The plastic *fire-through muzzle cover* is in place and undamaged. If it is torn or broken, cut it out and check the launch tube to ensure it is clear of foreign objects. Remove any that you find by turning the tube muzzle downward and gently shaking the launcher.
- The launcher has the correct *color-coded band*.
- The *sights* function properly. Open the sight covers to ensure the sights pop up and are undamaged.
- The *forward safety* does not move when you depress it.
- The *red trigger button* is not missing.
- The launcher body has no cracks, dents, or bulges.
- The *carrying sling* is not frayed and is attached firmly to the launch tube.
- The *shoulder stop* is not broken or damaged, and it unsnaps and folds down.

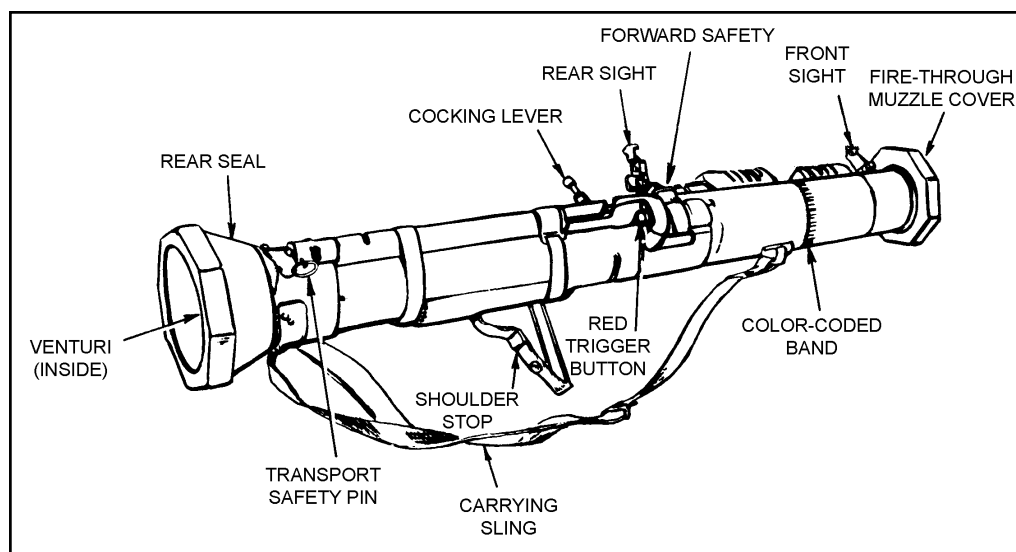


Figure 3-6. Inspection.

3-5. FIRING MECHANISM, SAFETIES, AND WEAPON FUNCTION

The function of the M136 AT4 must be discussed along with its firing mechanism and safety features. The firing mechanism is mechanical and consists of a red trigger button, an enclosed firing rod and spring, and three safety devices (Figure 3-7). The first safety device is the *transport safety pin*. The red trigger button is located between the other two, the *cocking lever* and the *forward safety*. The weapon cannot be fired until all three safeties have been disengaged.

a. **Transport Safety Pin.** This pin blocks the firing pin from striking the cartridge percussion cap. To disengage this pin, pull it outward, then release it.

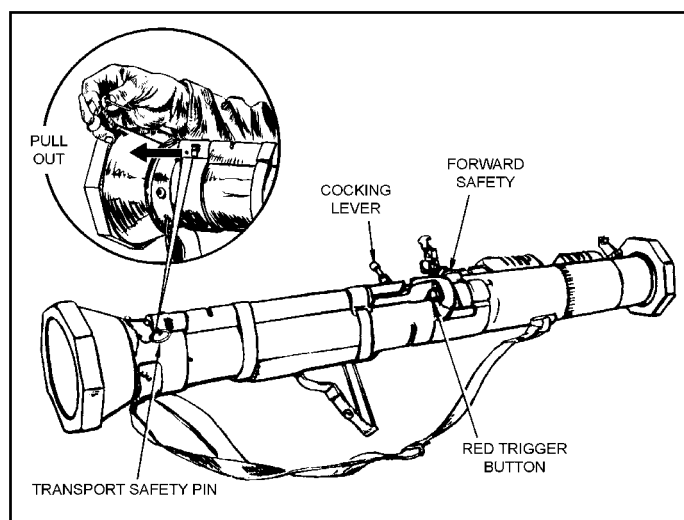


Figure 3-7. Firing mechanism and transport safety pin.

b. **Cocking Lever.** When this lever, which is attached to the firing rod (Figure 3-8), is in the SAFE position, the firing rod and the trigger cannot touch. To cock the AT4, push the lever forward and rotate it downward and to the right with your right thumb. This causes the hooks on the front of the firing rod to catch and hold the red trigger button.

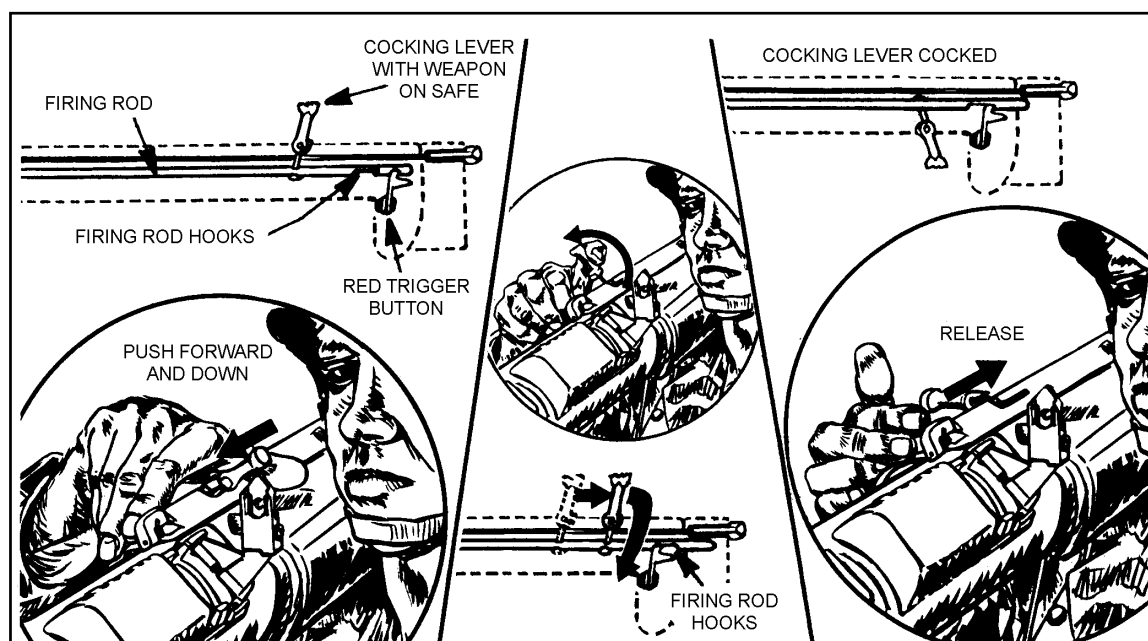


Figure 3-8. Cocking lever.

c. **Forward Safety.** This safety is on the front end of the firing mechanism (Figure 3-9) and is connected to a steel rod with a bent end that blocks the firing rod from striking the firing pin. To fire the M136 AT4, hold down the forward safety so the firing rod can strike the percussion cap and ignite the propellant when you push the trigger.

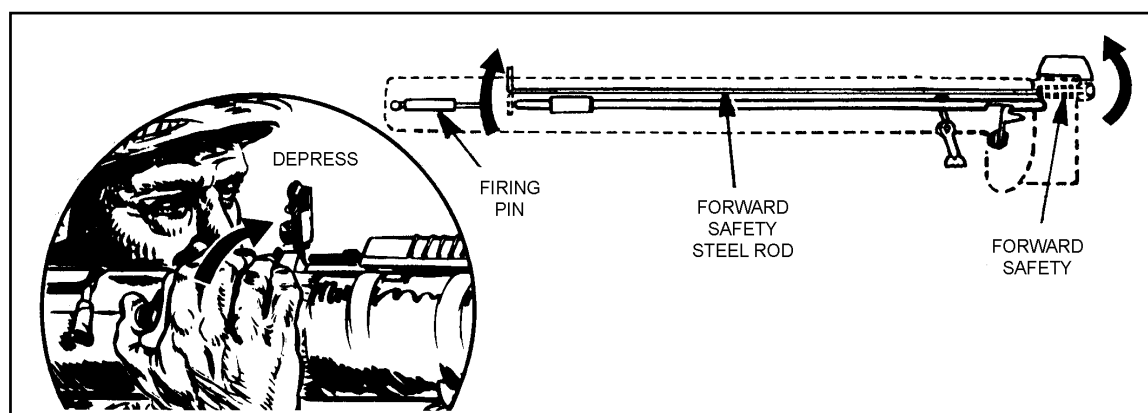


Figure 3-9. Forward safety.

3-6. SIGHTS

The fact that the AT4's front and rear sights resemble those of the M16-series rifle makes using the AT4 easier (Figure 3-10).

a. **Front Sight.** The front sight has a sight blade with a center post and left and right lead posts. A semicircular white line helps you obtain the proper sight picture. To open the front sight cover, press down on it and slide it backward until the sight pops up.

b. **Rear Sight.** The rear sight has a sight blade, range adjustment knob, range scale, 2-mm peephole for normal daylight visibility conditions, and 7-mm peephole for limited visibility conditions. To open the rear sight cover, press down on it and slide it forward until the sight pops up.

c. **Nightsight.** The AT4 can be fitted with the AN/PAQ-4C, AN/PEQ-2, or the AN/PAS-13, when used with the nightsight mounting bracket (NSN 5340-01-391-3004).

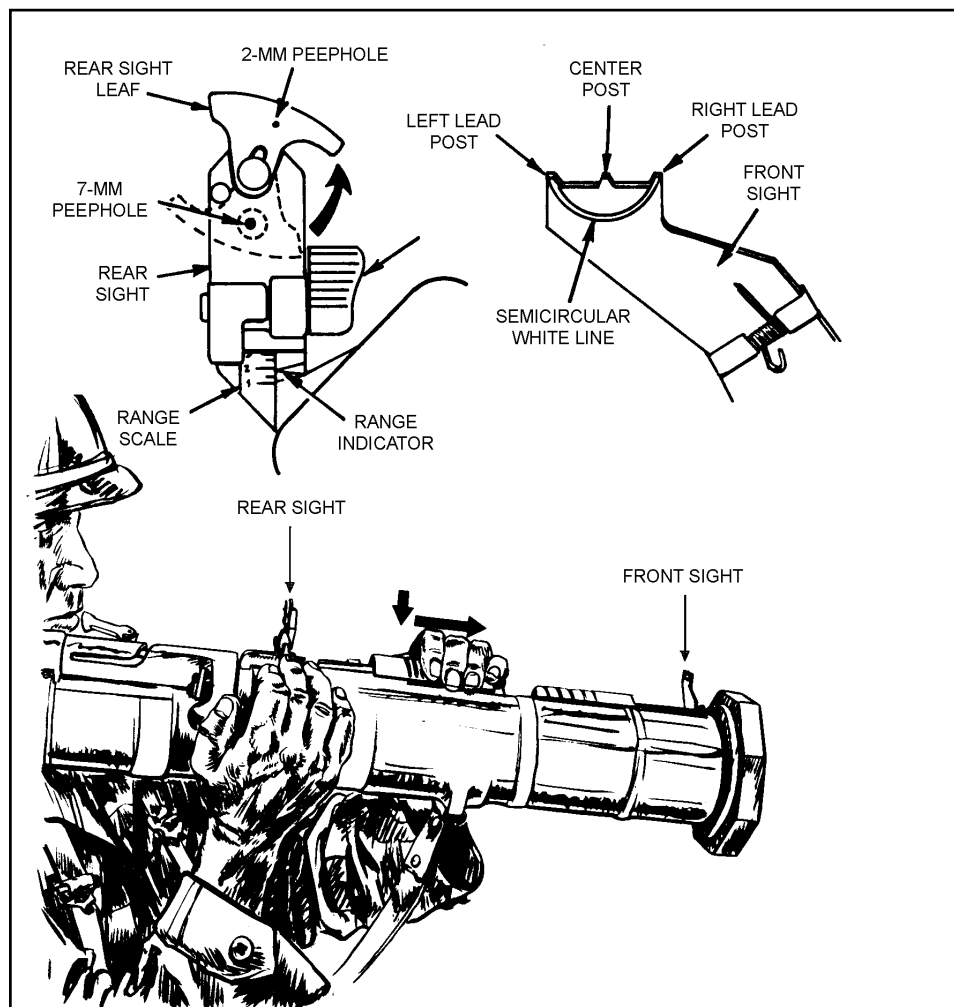


Figure 3-10. Sights.

(1) The leaf blade that covers the 7-mm peephole has its own tiny 2-mm peephole. To uncover the 7-mm peephole, pull the bottom of the leaf blade out slightly and rotate it right and up. To cover the 7-mm peephole, rotate it back down and ensure the leaf blade

is seated. The range indicator scale is indexed from 100 to 500 meters in 50-meter increments.

(2) To increase the range setting beyond 200 meters, turn the range adjustment knob clockwise, or vice versa (Figure 3-11). You must remember to reset the range to 200 meters when you close the rear sight. Otherwise, closing the sight cover will break off the rear sight.

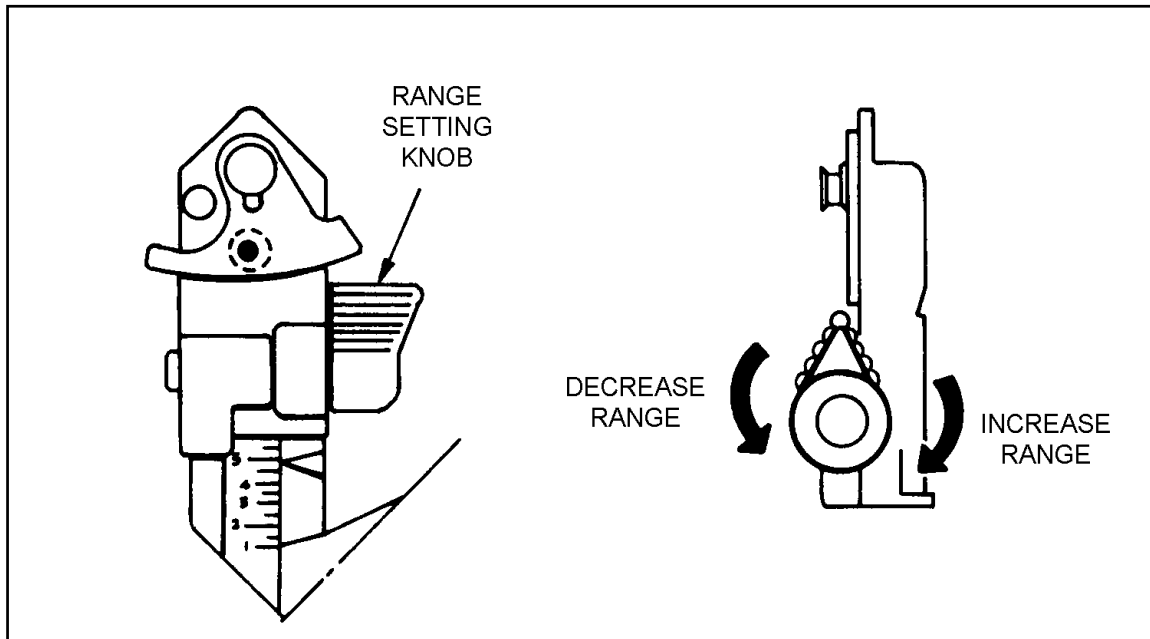


Figure 3-11. Adjusting the rear sight range setting.

3-7. OPERATION

If you are under fire, take cover before preparing the M136 AT4 for firing as follows:

- a. Remove the AT4 from its carrying position and cradle it in your left arm (Figure 3-12).

WARNING

Insert the approved brand of earplugs before you fire. Keep the weapon pointed toward the target, and keep the backblast area clear.



Figure 3-12. Cradle position.

b. With your right hand, pull and release the transport safety pin (Figure 3-13). This pin is important—you must reinsert it if you do not fire the launcher. Therefore, unless it is attached to the launcher with a lanyard, you must keep it in a safe place.

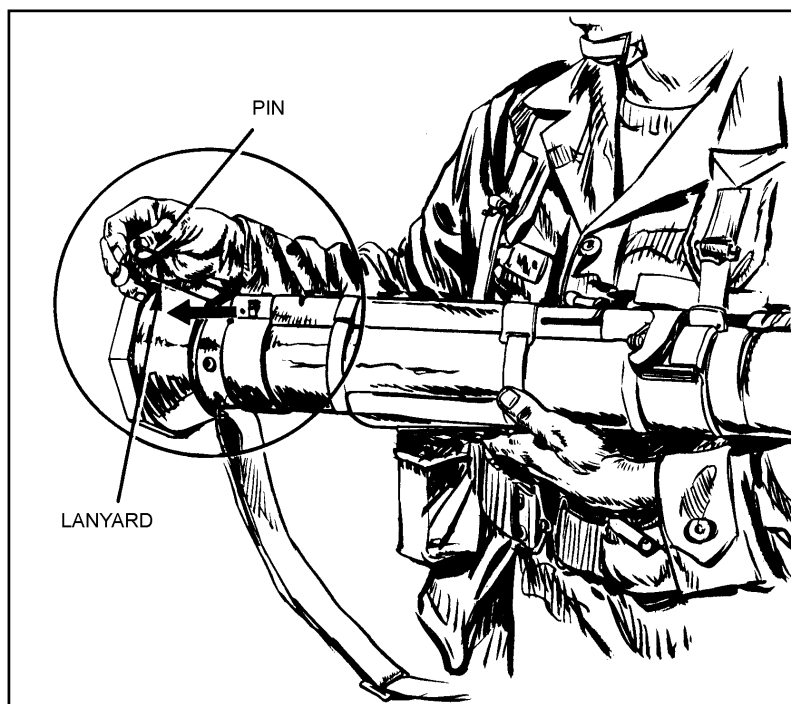


Figure 3-13. Removing the transport safety pin.

- c. Unsnap, unfold, and hold the shoulder stop with your right hand (Figure 3-14).
- d. Place the launcher on your right shoulder and stabilize it by grasping the sling near the launcher's muzzle with your left hand.

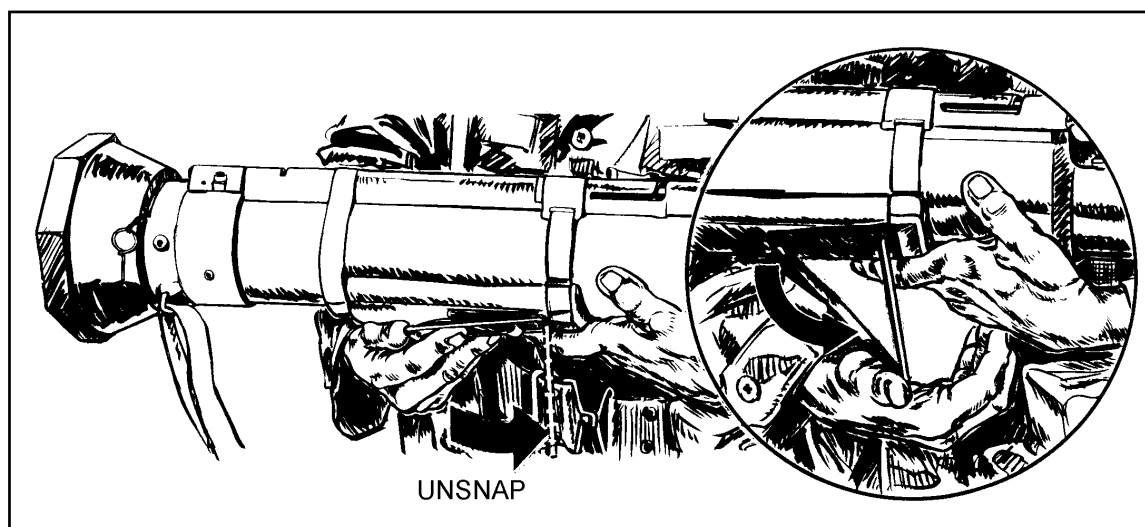


Figure 3-14. Unsnapping the shoulder stop.

- e. With the AT4 on your right shoulder, stabilize it with your left hand and open the sights with your right hand. Press down and pull backward on the front sight cover until the front sight pops up (Figure 3-15), then press down and forward on the rear sight cover until the rear sight pops up. The rear sight should be no less than 2 1/2 inches and no more than 3 inches from your eyes.

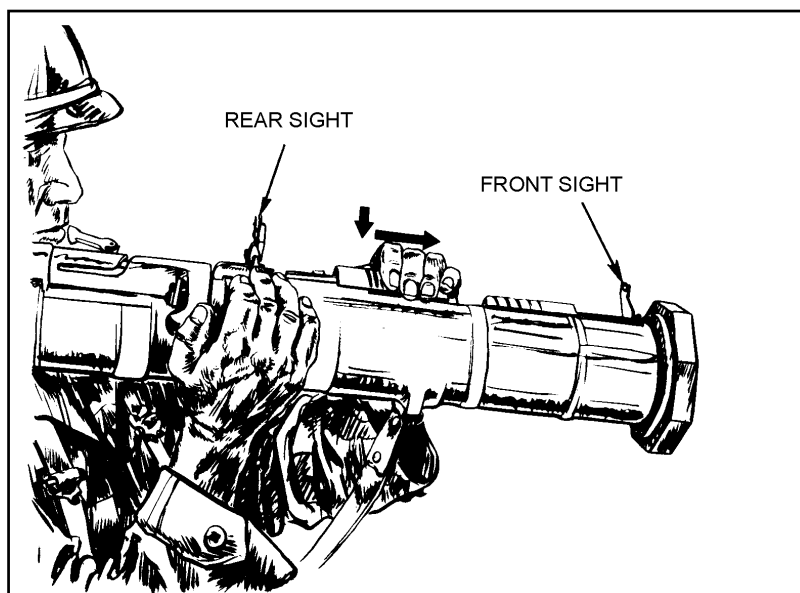


Figure 3-15. Opening and adjusting the sights.

- f. Set the rear sight for the correct range to the target.
- g. Check the backblast area before you cock the launcher. Then, with your right hand, unfold the cocking lever (Figure 3-16). Place your thumb under it and, with the support of your fingers in front of the firing mechanism, push it forward, rotate it downward and to the right, and let it slide backward.

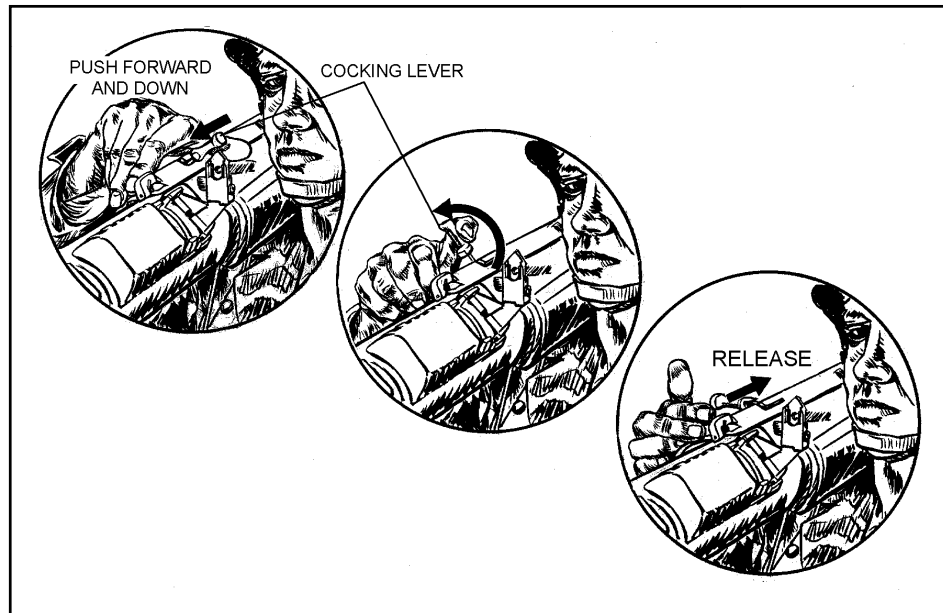


Figure 3-16. Cocking the launcher.

- h. Pull back on the sling with your left hand to seat the shoulder stop firmly against your shoulder. To avoid a misfire, use the index and middle fingers on your right hand to hold the forward safety down and to the left while you fire (Figure 3-17, page 3-12).

3-8. MISFIRE PROCEDURES

A misfire is a complete failure to fire caused by a procedural or mechanical failure. Which misfire procedures should be used depends on whether the firer is in a combat or training environment.

- a. **Causes.** A misfire is usually caused by one of the following factors:
 The forward safety is not depressed far enough to disengage the safety.
 The firing mechanism is faulty.
 The propelling charge explosive train is faulty.

WARNING
Keep your weapon pointed toward the target.



Figure 3-17. Firing the launcher.

b. **Combat Environment.** If a misfire occurs in combat—

- (1) Release the forward safety.
- (2) Remove your right hand from the firing mechanism and cock the weapon again.
- (3) Try to fire again. If the launcher still does not fire, maintain the same firing position and return the cocking lever to the SAFE (uncocked) position.
- (4) Move the launcher from your shoulder, keeping the launcher pointed toward the enemy. Reinsert the transport safety pin.
- (5) In combat, break off the sights to identify the misfired launcher. In training, however, you would not want to damage the field handling trainer (FHT), so identify the misfired launcher simply by leaving the sights up.

(6) Place the launcher on the ground, pointed toward the enemy, and use another launcher. As soon as you can, dispose of the misfired launcher IAW unit SOP.

c. **Training Environment.** If a misfire occurs on a live-fire training range, the soldier responds as follows (the trainer later disposes of the launcher IAW local SOP):

- (1) Shouts "Misfire" as soon as the launcher fails to fire while maintaining the original sight picture.
- (2) Releases the forward safety.
- (3) Recocks the launcher: Immediately removes his right hand from the firing mechanism and pushes the cocking lever forward with the heel of his right hand until the lever locks with a loud clicking noise.

NOTE: Because performing immediate action takes so little time, you need not recheck the backblast area.

(4) Press the forward safety all the way down and try to fire again. If the launcher still fails to fire, shout misfire, release the forward safety, and move the cocking lever to the SAFE (uncocked) position. Move the launcher from your shoulder, keeping the weapon pointed toward the target and cradled in your left arm.

(5) Reinsert the transport safety pin, wait two minutes, then carefully lay the launcher on the ground, muzzle toward the target.

NOTE: Notify the local ammunition supply and issue point of any unusual occurrence, regardless of whether the weapon fires or not. Examples include excessive overpressure, recoil, or heat on your face after you have fired the weapon (caused by the propellant burning after the round leaves the muzzle).

3-9. RESTORATION TO CARRYING CONFIGURATION

If the launcher is prepared to fire, but then is not fired, it must be taken out of operation as follows:

- a. Release the forward safety.
- b. Push forward and to the left on the cocking lever, and let it spring back into the SAFE (uncocked) position.
- c. Move the launcher from your shoulder, ensuring the muzzle is pointed in the direction of fire.
- d. With the launcher cradled in your left arm, replace the transport safety pin until it is fully seated in the retainer hole.
- e. To avoid breaking off the rear sight, remember to reset the range indicator to the 200-meter setting before closing the rear sight cover.
- f. Lay down the sights and close their covers.
- g. Snap the shoulder stop into the closed position.
- h. Sling the launcher over your right shoulder and move to another location.